DOCUMENT RESUME

ED 429 518 HE 032 010

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TITLE	Improvement to Emergence: An Organization-Environment Research Agenda for a Postsecondary Knowledge Industry.
INSTITUTION	National Center for Postsecondary Improvement, Stanford, CA.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO	NCPI-1-08
PUB DATE	1998-00-00
NOTE	27p.
CONTRACT	R309A60001
PUB TYPE	Information Analyses (070) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Epistemology; Futures (of Society); *Higher Education; *Institutional Research; Models; Organizational Development; Research Needs

ABSTRACT

This paper argues that establishing a research agenda to study the changing nature of postsecondary institutions as organizations is best done by examining their organization-environment interface, and it suggests an agenda based on historical perspective; a contingency model, or framework, of the organization-environment interaction; and a discussion of implications for the future. The paper is organized into five broad sections: (1) the contingency model of the organization-environment interface; (2) an historical analysis, based on this model, of the evolution of our conceptual understanding of colleges and universities as complex organizations since World War II; (3) a presentation of several emerging societal conditions that influence the current higher education environment and provide a contrast to recent history; (4) discussion of the key characteristics and institutional implications of the emerging postsecondary knowledge industry; and (5) a proposed research agenda that examines this emerging postsecondary knowledge industry and its impact on postsecondary institutions as organizations, the focus of which is on redefining the industry, redirecting relationships and mission, reorganizing institutions, and renewal of the academic workplace. (Contains 65 references.) (DB)

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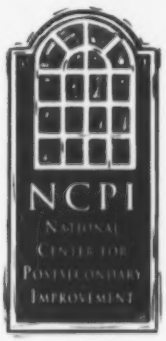

Improvement to Emergence: An Organization-Environment Research Agenda for a Postsecondary Knowledge Industry

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The work reported herein was supported in part by the Educational Research and Development Center program, agreement number R309A60001, CFDA 84.309A, as administered by the Office of Educational Research and Improvement (OERI), U.S. Department of Education. The findings and opinions expressed in the report do not reflect the position or policies of OERI or the U.S. Department of Education. Publication Number NCPI-1-08.

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Introduction

This paper argues that as we approach the twenty-first century, establishing a research agenda to study the changing nature of postsecondary institutions as organizations is best done by examining their organization-environment interface. The argument presented here is threefold. Part one consists of a brief historical perspective on how our conceptual views of colleges and universities as organizations have changed as a result of previous interactions with their environment; such a perspective provides useful insight as we attempt a prospective view on how they may respond to an emerging new postsecondary knowledge environment. Part two presents a contingency model of organization-environment interaction that provides a useful framework both for learning from our historical perspective and shaping our prospective views and research agenda. Part three explains how postsecondary education may be facing the emergence of a radical shift in the nature of our industry and environment that will either impact extensively or require a more complex organizational response—possibly leading to the redesign of our institutions as organizations.

For the purposes of the argument, this paper examines the development of our understanding of colleges and universities by examining general changes in our societal context and how they have informed our conceptual understanding of them as organizations. The paper is organized into five broad sections: (1) a contingency model, or framework, of the organization-environment interface; (2) an historical analysis of the evolution of our conceptual understanding of colleges and universities as complex organizations since World War II that relies on this model; (3) a presentation of several emerging societal conditions that influence the nature of our environment and our industry and provide a contrast with our recent history; (4) a consideration of the key characteristics and institutional implications of the emerging postsecondary knowledge industry; and (5) a proposed research agenda to examine this emerging postsecondary knowledge industry and its impact on our postsecondary institutions as organizations.

Section One: An Organization-Environment Contingency Model

There can be little argument that colleges and universities are shaped by both internal and external forces, and it is not my intention to debate the relative primacy of each. Instead, this paper focuses on the organization-environment interface and, in doing so, adopts a contingency perspective; i.e., changes in an institution's environment can and do impact or shape its internal structure and processes. The contingency model for this paper adopts a broad framework that draws on conceptual models or theories of organization-environment interaction (see Figure 1).

First, the model begins by examining changing societal conditions that have the power to shape our industry, that influence the dynamics of our general institutional environments, and that may impact our institutions as organizations directly. Societal conditions refer to broad social, political, legal, or economic changes that are broader than just

educational conditions. These are analogous to some of the broader forces posited as shaping institutions when viewed from an institutional theory perspective on organization-environment interaction (Meyer and Rowan, 1978). It is beyond the scope of this paper to deal with all the societal conditions that have influenced colleges and universities over a fifty-year period, so only those that, in retrospect, have had significant impact will be discussed.

Second, often overlooked in the organizational literature on higher or postsecondary education is the fact that such societal conditions do not just influence our institutions directly, but often do so through their impact on education as an industry or by shaping the general dynamics or nature of our environment. Thus it is useful to examine the impact of changing societal conditions both on our industry and on our more general institutional environment. Industry here is used to refer to a set of related organizations that utilize similar resources, attract similar clients and produce or provide similar services. While we seldom use the term industry (preferring the more amorphous term, system), the higher, or postsecondary, system of institutions can clearly be understood as an industry (or, at least, a distinct segment of the education industry). While industries can be examined on many levels, it is useful for this paper to focus on the concepts of complexity and competitiveness as they relate to industry. Complexity refers to the diversity of types of organizations making up the industry and their interconnectedness. Competitiveness, of course, refers to the degree to which organizations compete for clientele and other resources. Michael Porter's research (1980) provides a useful model that identifies the forces that shape competitiveness in an industry:

- The threat of new organizations entering the industry;
- The bargaining power of suppliers of key resources (in this case governmental funding sources, other organizations, private donors, etc.);
- The bargaining power of customers who purchase services (in this case students, employers, etc.);
- The threat of substitute services by organizations not usually considered to be part of our industry; and
- Innovation in the core processes which substantially change almost all organizations in and alter the industry (this force is not part of Porter's model but is key to understanding an emerging postsecondary knowledge industry).

It will be suggested that the changes in our industry—from traditional to mass higher education, then to postsecondary education and now to a postsecondary knowledge industry—have been accompanied by increasing complexity and competition and have changed the ways in which we view colleges and universities as organizations.

Third, while the theories of organization-environment interaction which focus on general environmental dynamics are extensive, for the purpose of this analysis three are particularly valuable in identifying key environmental dynamics that influence postsecondary organizations. Institutional theory (Meyer and Rowan, 1978) introduces the notion of the sociopolitical dynamics of "public support" for postsecondary educa-

tion as a key concept. Resource dependency theory (Pfeffer and Salancik, 1978) points to the "availability of resources" from the environment (particularly funding and enrollments) as a key dimension. And finally the degree of "turbulence"—the rate and predictability of change in the environment—has been noted as a key dimension in Miles and Cameron's (1980) review of strategic choice or adaptive models.

Finally, the model looks at the impact of societal condition, industry and environmental variables on the postsecondary institution as organization. Specifically, this analysis focuses on the institutional or internal managerial press for change, the conceptual model for understanding the institution as organization that emerges, and the primary institutional performance dimension that is stressed.

Clearly, such a model is general, and using it to examine changes over time prevents fine-tuned analysis. However, the model does provide a useful way to gain insight into the interaction between the changing nature of our societal conditions, environment, and industry, and our evolving institutional management challenges, organizational models, and primary performance standards. Understanding these interactions is useful in developing a research agenda.

Section Two: Evolution of Colleges And Universities as Organizations: A Brief Historical Perspective

The published literature on the organizational nature of colleges and universities is primarily a phenomenon of the past four decades. While there are significant administrators/statesmen (e.g. Thomas Jefferson, Charles Eliot, and Robert Hutchins) and some scholars (e.g. Floyd Reeves and John Dale Russell) who made significant contributions before World War II, most research-based writing on the organization, governance, management, and leadership of higher education prior to that time was embedded in institutional histories or special reports and studies not widely published. This brief historical analysis begins therefore with the state of higher education in the post-World War II era.

Traditional to Mass Higher Education

Prior to 1945, colleges and universities were conceived of as an industry of the traditional higher educational institutions—public and private four-year colleges, comprehensive institutions, doctoral degree-granting universities, and some professional or specialized degree-granting institutions. Community colleges, although present, were not common and were often two-year branches of four-year institutions or private junior colleges. (See Figure 2). Immediately following World War II, traditional higher education experienced a period of unprecedented growth and expansion that lasted through the 1960s (See Table l). Following the GI Bill, which increased the enrollment of returning service men, the President's Commission on Higher Education (1947) advo-

cated higher education for everyone who completed high school, established a societal context which reinforced growth and expansion of existing public institutions, promoted a national movement to establish community colleges in every community in every state, and supported a growth of enrollments in general. Our notions of the industry shifted from one made up of traditional institutions to one referred to as mass higher education which included rapid growth of public traditional institutions both in number and size, and an explosive expansion of community colleges. This shift was based on the activation of only two of the forces reshaping an industry—namely, new organizational entrants (new institutions and community colleges) and new customers (students).

Enrollment growth was supported by college attendance rates that increased steadily and was further fueled in the mid-1960s when the postwar baby boom began to reach college age. The growing complexity or diversity of institutional types was reflected, not only in the expansion of community colleges (Medsker and Tilley, 1971), but also by the founding of new innovative types of institutions (academic supermarkets [Altbach, 1971]; upper division institutions [Altman, 1969]; cluster colleges]Gaff, 1970]; experimental colleges [Stickler, 1965]). Complexity was also reflected by the growth of new mechanisms promoting interdependence among institutions in the industry (multicampus systems [Lee and Bowen, 1971]; state coordinating and governing boards [Berdahl, 1971; Glenny et al, 1973]; consortia [Burnett, 1967]; accreditation [Selden, 1960]). Competition during this era was limited due largely to the inability of the expanding new institutional capacity to absorb the rapidly increasing enrollment demand.

In a more general sense (see Table 1), the sociopolitical environment was strongly supportive. A variety of federal student aid programs beyond the G.I. Bill were initiated. At the state level, comprehensive state plans to provide access, such as the California Master Plan (1960), became the ideal as many state expanded their institutions. It was also a period of growing resource support—both in terms of federal funding for students and state appropriations for growing enrollments and new facilities. Although a period of rapid growth, it was clearly one that was predictable and expanding.

In this period of industry transition and a favorable environment, the two primary challenges to higher education institutions were to provide direction for their growing or new institutions and to be more accountable for the human, facilities, and financial resources they required. In this context, it is not surprising that two internally oriented models of organization to understand colleges and universities appeared in the organizational literature on higher education. A formal-rational model rooted in the Weberian bureaucratic tradition (Stroup, 1966; Corson, 1965) attempted to explain the purposive nature of our institutions, to emphasize their rational structure and processes, and to account for resources. The second model grew out of the attempt to understand the core nature of the college or university as a collegium. While there were differences in defining the collegium (learners [Goodman, 1964]; professionals or faculty [Clark, 1964]; constituents with common interests [Millett, 1962]), all were either a reaction against institutional growth and the rise of bureaucratic structures or an attempt to capture the

more personal and historic nature of an institution of higher learning. Consistent with the managerial press for public accountability for needed resources and the growth of the formal rational model, the primary indicator of institutional performance focused on inputs and resources—counting students, faculty, books, facilities and money. Not only did public agencies demand it, but it was also the *sine qua non* of accreditation during this period.

From the mid-1960s to the early 1970s, a new set of societal conditions emerged suddenly which, while not redefining our industry, did reshape our institutional perspectives (See Table l). Three almost simultaneous events—the Free Speech movement, the Civil Rights movement, and the protests against Vietnam War—became national issues that were centered on college and university campuses or involved large numbers of students and faculty in demonstrations, civil disruptions, and even violent protests. The sudden turbulent turn of events threatened higher education's positive image, brought threats of reduced financial support and raised concerns for campus safety.

These movements brought into focus the need to protect the institution and the educational process. In this environment, institutions were challenged to place a higher emphasis on maintaining order and control while insuring access to new minority populations. This brief era altered our models of organizational governance and primary performance focus substantially. Colleges and universities were no longer conceived just as purposive, rational, or collegial organizations relatively free of external influence or conflict. An open systems perspective, popular in other organizational settings (Katz and Kahn, 1978) became evident. Views of them as political organizations with competing constituencies entered our research and administrative perspective at the institutional, state and even national level (Baldridge, 1971; Millett, 1974; Bailey, 1975).

In a curious irony, given today's complaints about external reputational studies of higher education by various groups, higher education researchers at the American Council on Education may have legitimated the practice of conducting reputational studies. Presumably this was done, at least in part, to reassure the public and to strengthen higher education's battered image (Carter 1966; Roose and Anderson, 1970). Despite their basis in peer judgment and a quality focus, the notion of a systematic, quantifiable use of reputation as a performance criteria become part of the higher education scene.

R and D Center Contribution, Part 1

It is interesting to note that the first U.S. Office of Education-funded Center for Research and Development Center in Higher Education was founded at the University of California, Berkeley during this early period (1965-1973). While some of its efforts were directed at studying the expanding college student population, a substantial part of its work was focused on governance, innovation and change (e.g. Glenny, 1971; Helsaback, 1973; McConnell, 1971; McConnell and Mortimer, 1971; Hodgkinson, 1970).

Mass to Postsecondary Education

The 1970s brought a new set of changing societal conditions that once again redefined our industry and our organizational perspectives. The 1972 Higher Education Amendments, an external event, marked a sharp turning point in our industry. (See Table 1). They introduced both the concept of "postsecondary" and revised the system of distributing a growing federal student aid program (See Figure 1). The federal inclusion of the term "postsecondary education" introduced a vast new array of proprietary institutions into the growing mass higher education industry (*Toward A Learning Society*, 1973). The amendments also refocused the distribution of federal student aid directly through students rather than through institutions and made students at proprietary institutions eligible for such aid. These changes in the industry involved only two of Porter's forces. It expanded our notion of the relevant industry (proprietary institutions as new entrants) and made it more market driven by placing funds in the hands of students (power to consumer). Both were changes that not only redefined the industry but also increased the organizational complexity and competitiveness of the industry.

This governmental policy shift was accompanied by two external changes more general in nature—the economic recession of the early 1970s brought on in part by the Arab oil embargo and the end of the increasing enrollment demand created by the postwar baby boom. (See Table 1). These conditions were reflected in an environment in which public support for higher education, while not negative, would become more cautious. State governments concerns for institutional accountability and control would increase, particularly in the form of new state formula budget reforms, expansion of state-level program review, and more emphasis on statewide planning processes (McGuinness et al, 1975). Financial resources would not keep up with inflation, enrollment growth would slow, and forecasts of funding and enrollment for the future would become more constrained or uncertain.

The institutional challenge of this redefined postsecondary industry and less supportive environment was to enhance the need for institutional efficiency and to stress a greater market orientation in seeking student enrollments and other resources (See Table 1). New organizational models emerged which stressed information-based managerial models (Lawrence and Service, 1977), simulation models (Hopkins and Massy, 1981), and market-oriented models (Kotter, 1975; Lucas, 1979). Responding to the external pressures for accountability and the internal needs for efficiency and aided by the development of common standards for data definition and collection provided by NCHEMS, the focus of institutional performance now shifted to more quantitative measures of results or output measures (degrees, credits, etc.) and productivity and efficiency ratios (cost per unit, completion rates etc.).

In the early 1980s, despite the improvement of the economy, it became apparent that long-term enrollment and financial constraint would become the key condition of this decade (see Table 1). In a prophetic report, Mortimer and Tierney (1979) established the three Rs of the early part of the decade—an institutional challenge to reduce, reallocate,

and retrench. Meanwhile, the industry was not redefined and the environmental dynamics were only becoming more exaggerated and less favorable. Institutions faced even tougher accountability questions as other priorities for public funds emerged, and constraints on enrollment growth increased as even nontraditional students were depleted as new markets and forecasts for the future became more uncertain. Faced with these challenges, institutions began to invest in more serious planning efforts.

These institutional challenges did give rise to new organizational models (See Table 1) which stressed flexible, decentralized, organized anarchies (Cohen and March, 1974), more complex matrix models (Alpert, 1986) or the development of strategic approaches (Keller, 1983; Peterson, 1981). It was recognized that colleges and universities needed to be more than just the efficient, responsive institutions of the 1970s. They needed to become adaptive institutions who thought strategically about their mission and role, their market niche in the industry and their priorities, and their clientele base and program mix. A new focus on institutional performance criteria that sought to go beyond the three Rs focused more on effectiveness and measures of goal achievement.

By the mid-1980s, criticism of education, initially fueled in the K-12 sector (National Commission on Excellence in Education, 1983), expanded quickly to higher education (Study Group on the Condition of Excellence in American Higher Education, 1985). The ensuing controversy and plethora of national reports alternately focused the problem on the quality of students, the faculty, and/or the curriculum. While the debate did not alter the industry or change the general environment greatly, it did continue the move towards a more critical public, a more constrained set of resources (especially as institutional costs and tuition continued to grow faster than inflation and disposable income), and raised more questions about directions for the future.

The debate did, however, return the focus to colleges and universities as academic rather than managerial organizations. The institutional challenge shifted to managing the quality of the academic enterprise. In the face of this shift new organizational models emerged. An earlier interest, institutional culture (Clark, 1960 and 1970), reemerged as researchers and administrators began to take a more holistic view of their initiatives as academic enterprises (Kuh, 1988; Tierney, 1990; Peterson and Spencer 1993). These more holistic perspectives were paralleled by the Total Quality Movement (Peterson et al, 1995; Teeter and Lozier, 1993; Chaffee, 1992). The more academic focus is reflected in a move from the efficiency focus on re-engineering in the later 1980s to the focus on academic restructuring in the 1990s (Gumport, 1997). Institutional performance criteria over the past decade has also seen a major shift from the managerial and quantitatively oriented efficiency and effectiveness focus between the mid-1970s to the mid-1980s to a more serious examination of the quality of student learning, faculty performance, and academic outcomes in the early 1990s. These performance foci are reinforced by state interests in performance indicators, new accreditation standards focusing on student outcomes, and institutions that are beginning to look seriously at promoting and assessing student outcomes (Peterson, 1997).

R and D Center Contribution, Part 2

In this postsecondary era from 1972 to the present, it is useful to reflect on the role played by the national research and development centers. During its existence from 1971 to 1985, the National Center for Higher Education Management Systems (NCHEMS) was a key contributor to the development of data and information systems that reinforced the institutional challenge to be more efficient and reflected the managerial and market-oriented models of organization in the 1970s. During its final five years of funding (1980-85), the focus shifted to organizational theory, strategy, and effectiveness (e.g. Cameron, 1989; Cameron, 1978; Chaffee, 1985) and presaged the extensive interest in those three areas during the 1980s.

From 1985 to 1990, two higher education research and development centers were funded—The National Center for Postsecondary Governance and Finance (NCPGF) at the University of Maryland and the National Center for Research on Postsecondary Teaching and Learning (NCRIPTAL) at the University of Michigan. Although NCRIPTAL's primary focus was not on organizational issues, its teaching and learning focus reflected the renewed interest in academic and educational issues of the late 1980s. NCPGF's focus was more managerial and contributed to our understanding of organization and governance (Birnbaum, 1989), planning (Schmidtlein and Milton, 1988) and leadership (Bensimon and Neumann, 1993). The National Center for Learning and Assessment (NCTLA, 1990-95) continued an even more focused agenda that reflected the concern for assessment and student outcomes which extended into the 1990s.

Contingency and Evolution

In reviewing this brief history, several preliminary conclusions can be drawn that inform the remainder of the paper.

- The construct of industry is a useful one to portray the organized character of our environment and our transition from traditional to mass and from mass to postsecondary education. These transitions were evolutionary and only two of five forces shaping an industry were influential in redefining the industry during these two transitions.
- External factors (societal conditions, environmental dynamics, and nature of industry) are interrelated and do play a key role in shaping institutional challenges.
- New organizational models and institutional performance criteria do appear to be influenced by external forces and reflect institutional attempts to respond to the changing institutional challenges and external conditions.
- The current organizational models and institutional performance criteria do not completely replace the previous ones. Each has contributed to our understanding of colleges and universities as complex organizations and remain useful perspectives.

- Virtually all of the models and criteria are borrowed from other organizational settings. Despite our best efforts, there are few models or criteria developed that are a product of or unique to colleges and universities as organizations. (The notion of an organized anarchy may be the exception.)

In the remainder of the paper, we will examine several current societal conditions that may have a more radical effect on our industry, examine the challenges they pose for our institutions, suggest some new or emerging organizational models and performance criteria, and identify a research agenda that may emerge.

Section Three: Societal Conditions: Impact on Forces Shaping an Emergent Industry

As we approach the twenty- first century, a great deal of debate has already occurred about the emergence of a knowledge or information age. In higher education it is almost always linked to technology and distance education and is embodied in the notion of virtual delivery systems or virtual universities. These debates tend to be quite general arguments full of assumptions and speculations. However, this paper focuses on how several external societal conditions, not just technology, are influencing the factors that are reshaping our postsecondary industry. The intent is to get a clearer picture of an emerging postsecondary knowledge industry and its institutional implications (for a more extended presentation see Peterson and Dill, 1997). The societal conditions that are likely to reshape our postsecondary industry include: information technology, diversity, academic quality, economic development, new markets, and global networks.

Information technology refers to the interrelated and rapid growth of computer hardware and software processing power, telecommunications capacity, and the access to a vast array of information resources. The integration of these three technologies is often referred to as the "telematics" revolution. Diversity refers to our concern for student, faculty, and educational diversity specifically as it relates to race, ethnicity, and gender. This is an issue that currently is heightened by our national debates and legal cases in postsecondary education. Academic quality refers to the institutional and public policy interest in the quality of our postsecondary education—especially the emphasis on evidence of student outcomes and learning, faculty performance, academic program quality, and institutional performance indicators. Economic development refers to the interest in involving postsecondary institutions more actively in approaches designed to strengthen local, regional, and national economic development. These include a wide array of efforts to link education, training, and research to improve economic capacity and well being. New markets refers to the older (over 25) population of students—high school graduates, bachelors' degree holders, advanced degree holders—in need of continuing education, career enhancement or redirection and retraining or personal development education that is postsecondary in nature. Global networks refers to the growing interest in providing educational and scholarly opportunities in which individuals from diverse countries and settings can participate in postsecondary global

learning systems or can study common issues of global concern which are often interdisciplinary in nature and may combine theory, policy, and application.
These societal conditions will be examined in terms of their impact on the forces reshaping our postsecondary industry: innovation in the core academic process, the threat of new organizational entrants, the availability of substitute services, the bargaining power of customers, and the bargaining power of suppliers.

Innovation in Our Core Academic Processes

It is clear that the telematics revolution—the linking of telecommunications, computing, and information resources—is the most formidable and most discussed societal change currently confronting our core teaching and learning processes. It can affect the design and delivery of instruction, course content, curricular programs, learning experiences, availability of educational resources, and the role of both student and faculty. This revolution also impacts scholarly and research work—providing new linkages among scholars and practitioners; greatly expanded access to data and information; new, more powerful means of conducting analysis; and even the simulation of research.

While the debate about the impact of technology on our core processes and its appropriate use will continue, it is also important to note that the other changing societal conditions often interact with or are enabled by the telematics revolution. They influence our core academic processes independently as well. For example, concerns about diversity have led not only to the introduction of new courses and educational programs focusing on new groups and diversity issues, but also have led to new research perspectives and insights in traditional disciplines as well as new topics for scholarly work. The concern for academic quality has increased our focus not just on the quality of instruction, programs, and faculty performance, but it has also led to a new focus on student learning outcomes and new academic performance indicators. Institutional involvement in economic development activity, although often a more peripheral activity in many institutions, may draw faculty effort away from teaching or redirect their scholarly effort to more applied, developmental, and implementation-oriented research activity and drain resources from core educational and scholarly activity. The expansion of new markets for postsecondary learning among older, more diverse learners with more varied learning needs and objectives potentially reshapes the purpose, design, packaging, and delivery of educational learning experiences. It enhances the focus on the student as customer and as learner and is reinforced by the new delivery technologies which make it possible to design and deliver more flexible, asynchronous, and individualized learning opportunities. And finally, the rise of global telematics networks increases the potential for more international postsecondary institutions or informal linkages among individuals or institutions. It increases the likelihood of cross-national teaching and learning opportunities and makes more feasible the prospect of cross national research collaboration which links scholars from varied disciplines, policymakers, and industry analysts who address complex interdisciplinary problems.

So while our core academic processes are being influenced by telematics, they are simultaneously being shaped by other societal condition. In our two previous industry transitions, there was no substantial change in our core academic processes. Clearly, those are being reshaped by the current external challenges.

New Organizations and/or Substitute Services

Once again the telematics revolution poses the most extensive implication for this force reshaping our industry—both in terms of the threat of new organizations and the potential for offering alternative services. Computer hardware and software firms and telecommunications firms have already become significant players in the field of postsecondary education by providing a newly expanded means, not only of knowledge dissemination, but also of teaching and learning. When linked with information resource firms, they provide a far more extensive array of opportunities for postsecondary learning and research than is available from our current postsecondary institutions. The training and development functions of business and government organizations and the growing array of firms specializing in training and development were formerly viewed as alternative learning resources. But they are providing increasingly sophisticated postsecondary learning opportunities and are becoming more direct participants in the new postsecondary knowledge industry. Because of their proclivity for using the expanding technology, they are especially strong competitors in reaching the new postsecondary learning markets. The potential of entertainment firms—especially when merged with telecommunications, and computer and information resource organizations—has been identified as another entrant into this industry. More recently, some new postsecondary "virtual" universities, who base their educational delivery in technology, have been formed; in other cases, existing postsecondary institutions are migrating to this mode; other more traditional institutions are adopting this approach for some portion of their educational delivery.

While the rise of telematics suggests major new noneducational types of organizations entering this postsecondary learning industry or offering alternative or substitute services, other societal conditions are also adding to the organizational complexity of the industry. While not usually formed as new institutions, an increasing number of existing postsecondary institutions have become minority institutions (currently about one in five higher education institutions have over 50 percent ethnic minority students). These predominantly minority institutions and the minority students and faculty from all institutions have founded a number of new minority-oriented professional associations and organizations to serve their interests and needs. The emphasis on academic quality, while it has not led to the introduction of new institutions to the industry, has led to changes in the accreditation structure of the industry and may lead to new accreditation approaches as we struggle with how to assess individualized learning using the new technology-based delivery systems. The new postsecondary learner markets are perhaps the driving force, along with technology, in the growth of the previously mentioned postsecondary training and development organizations and new virtual or

distance education institutions which respond more readily to their individualized needs or those of their employees.

The external sociopolitical pressure for increased economic development activity has led to the expansion of several new forms of organization which are designed to link postsecondary institutions, business, and government to serve the needs of economic development. New education and training, applied research, technology transfer, and regional economic development arrangements take various forms—contracts, partnerships and alliances, joint venture corporations, and even spawning new subsidiary or independent businesses. The important aspect is that these new ventures link postsecondary institutions and non-postsecondary organizations in ways designed to provide a new form of cross-industry (in terms of our old definition of industry) alliance.

Finally, while the future of academic and scholarly global networks based on technology and mutual interests is unclear, it is necessary to anticipate the potential for formal, global postsecondary alliances among institutions in various teaching or research ventures; for global universities; and for less-formal, cross-national, cross-industry research ventures that can give rise to new forms of postsecondary organizations.

Once again, we see the changes in technology introducing new participants into and increasing the complexity of our postsecondary industry. But these are equally supplemented by postsecondary training and development firms who are responsive to the new markets for postsecondary education. Both the technology and economic development conditions increase the potential for new forms of organizational linkages between existing postsecondary institutions, business, and government. The quality, diversity, and global societal conditions also suggest new potential organizational patterns although probably less numerous. In the two previous industry transitions, there were additions of new educational organizations (more traditional institutions, community colleges, and proprietary institutions); not involved however, were the entry of noneducational institutions or the array of new interinstitutional (between postsecondary institutions and other types of organizations) forms seen at this time.

Bargaining Power of Customers

The impact of these external conditions affects not only the bargaining power of our customers but also their very nature. For example, the technology revolution may change many computer and telecommunications firms from their earlier role as customers (employers of our graduates and user of our research) to that of suppliers, who do research and develop systems that they then supply to postsecondary institutions to use for teaching and research activities. Similarly business and government firms that provide their own advanced postsecondary education and training (or rely on training and development firms) cease to be customers for our graduates—and may even become competitors. In the past, the issue of diversity has substantially increased bargain-

ing power, in the form of minority coalitions, interest groups, and organizations that have pressed their concerns both in political circles and on campus. The introduction of minority support programs, financial aid, minority oriented academic programs, faculty hiring patterns, and various other on-campus activities reflect this growing power as customers. Current conflicts over affirmative action and its impact on minorities as customers is a critical issue to watch in the future. The stress on academic quality and its assessment may influence customers (potential students) but is more often discussed in terms of its relation to suppliers (accountability to public funding agencies). Pressure for economic development, like changes in the technology condition, suggests a shift by business and government, from being mere customers for our educated graduates and research findings to becoming a partner in addressing issues of economic development.

Clearly, large new markets of older adults interested in or in need of further postsecondary education can become a significant new customer base—if postsecondary institutions decide to address their demand. The unique element is that this new set of customers (opportunity) has much more individualized learning interests and needs (modules, courses, learning opportunities, not necessarily programs or degrees), has increased time constraints, is more willing to use technologically delivered education, and often is represented by an employer with very specific demands who may control a sizable group of potential students. In the global context, it is not clear that there is currently a substantial customer base. However, as technology networks expand and as various faculty and non-faculty users in different parts of the world gain experience, a new set of consumers may emerge. Or more possibly, some entrepreneurial institution will seek new customers by becoming more global in the delivery and marketing of their educational services.

While there are many uncertainties about how these external conditions affect customers in this changing industry, it is clear that dynamic changes may occur. Technology based firms shift from customer to supplier. Business and government groups may develop inservice education or depend on training and development firms if postsecondary institutions do not respond. In pursuing economic development, business and government become potential partners—not just customers. Minorities are becoming more influential customers. New adult learner markets provide opportunities for new customers but with very specific interests and different bargaining power. The movement to mass higher education and then to postsecondary education primarily reflected an expansion of the market for predominantly younger, degree-oriented students. However, in this new era customers are much more diverse, more fluid, and have the potential to be powerful bargainers for postsecondary knowledge and learning in the future marketplace.

Bargaining Power of Suppliers

As noted earlier, one of the significant features of the technology revolution is that it shifts the computer and telecommunications firms from customers to suppliers—chang-

ing significantly the relationship with current postsecondary institutions. The diversity and academic quality conditions promise to play a continuing role in influencing one of our key suppliers of funding—state and federal government. In the diversity area, the current legal issues over affirmative action may reshape state and federal student aid. In the academic area state government demands for academic performance indicators are increasing and reflect their demands as a major public sector funding supplier. The growth of new markets for postsecondary learners primarily affects their bargaining power as customers not suppliers. It is clear that government and private sector interests in economic development is a double-edged sword. In that capacity, they can act as suppliers, assisting colleges and universities in becoming involved in this activity. But they can also be demanding partners and draw institutional resources from other efforts. At this time, it is not clear how global conditions have a substantial impact on the bargaining power of suppliers.

While five of the six societal conditions influence the bargaining power of suppliers less than the other forces reshaping an industry, it is clear that some changes do occur. In our prior transitions to mass higher education and to postsecondary education, there was little or no change in higher education's supplier relationships.

Complexity and Competition

It is evident from examining the impact of the underlying societal conditions on the forces reshaping our industry that all five forces are being affected by all six conditions. This all occurs at a time when our postsecondary institutions are operating in a constrained financial environment —when pressures to reduce costs and hold tuition constrant while improving productivity and improve academic performance are widespread.

Yet it is also clear that we are entering an era in which our industry may be changing to a postsecondary knowledge industry. The organizations that provide postsecondary knowledge to individuals and to groups interested in postsecondary learning and to those seeking to do research and apply it in useful ways are changing. As this overview suggests, this is becoming a more complex industry that includes an extensive set of noneducational institutions (See Figure 2). While it introduces the possibility of a large new market for postsecondary education (learning and knowledge), it will be a market with new and different demands and an industry which includes private sector companies which are intensively—even aggressively—competitive.

Section Four: The Emerging Postsecondary Knowledge Industry

As institutions of postsecondary education face the twenty-first century and the prospect of a postsecondary knowledge industry, they need to address three issues: What is the nature of that new industry? What are the institutional implications? Do we wish to

compete in it? We do not know what this new industry will look like and what its dynamics will be. However, based on the previous analysis, it is useful to examine the key characteristics of this industry and then to consider its institutional implications.

The Organization-Environment Contingency Model

It is apparent that compared to previous eras (See Table 1), the environment surrounding the emerging postsecondary knowledge industry is one in which external constituents are more "critical" of higher education, resources are more "limited" and there is "rapid" change that is both uncertain and increasingly unpredictable. Societal conditions and environmental dynamics are "reordering" our industry. For those who contend that higher education has faced constant change since the 1960s, it is important to note that never has the industry been reordered or reconfigured this radically. In past transitions, we merely added new types of educational institutions and new (but usually degree-oriented) students to our mix. The potential changes involved when we move from a postsecondary education to a postsecondary knowledge industry are far more dramatic.

Characteristics of a Postsecondary Knowledge Industry

Compared to our current postsecondary education era, a postsecondary knowledge industry:

- emphasizes learning more than teaching and instruction;
- places the priority on the student rather than the faculty member;
- uses interactive information technology (telematics) for teaching, learning, and research—either to supplement traditional processes or as the primary delivery mode;
- includes telecommunications, computer related, information resource, education and training, and entertainment firms as potential organizations in the industry—not just colleges, universities and proprietary institutions;
- acknowledges a large and growing postsecondary continuing education and relearning market of adults with diverse needs and interests;
- emphasizes the design of learning materials and experiences to meet learners needs and interests as well as to devise academic programs;
- includes an increasingly extensive array of educational networks and varying forms of alliances between postsecondary and non-postsecondary organizations to deliver postsecondary educational, research and knowledge based service; and
- requires faculty who are "learning experts," and can assess learning needs, design learning experiences, develop strategies for accessing material, design delivery services, serve as learning mentors, and assess learning as well as acting as content and instructional experts who design courses, programs, and traditional modes of instruction.

Institutional Implications

The institutional implications of choosing to function in a postsecondary knowledge industry perspective are several (See Table 1). First, the primary challenge to the postsecondary institution will be to consider "redesigning" the institution. The process of institutional redesign in an industry being reordered by external forces requires addressing four broad issues. Success in addressing these issues becomes the new performance criteria for responding to the redesign challenge. Because the industry is being reordered but is not clearly defined, it will be necessary to progressively "redefine" the emergent industry and the university's role in it; to "redirect" the institution's mission in that emerging industry and its external relationships with new non-educational organizations in the industry; to "reorganize" major academic and administrative structures and processes as appropriate; and to "reform" the academic work culture and retrain or rehire faculty as needed.

Because the institution operates in a new industry and maintains a variety of new external relationships, it may be useful to think in terms of some new emergent organizational models. Burton Clark suggests the notion of "conglomerates," for large institutions that provide varied traditional and new forms of educational services (Clark, 1996). Another model is that of an "entrepreneurial" organization that reflects the new highly-responsive or competitive mode that may be necessary in a highly competitive environment (Jelinek and Litterer, 1995; Weaver, 1993). Viewing institutions as "networks"— informally joined elements of the institution—may reflect their nature as loosely linked organizations (Jarvena and Ives, 1994). Similarly, the concept of "alliances" or "joint ventures"—reflecting new ways of partnering with business and government agencies to provide new forms of education, research, or service—suggests new ways of examining the interrelationship among organizations in joint ventures. Finally, the concept of "virtual organizations," which reflect new technological ways of organizing, may become yet another new organizational model (Zeller, 1995).

Summary

The societal conditions faced by higher education institutions over the past fifty years have changed and have been reflected by an increasingly critical, resource-limited, and rapidly changing environment and by an industry that is becoming increasingly more complex and competitive. In responding to these external conditions, the primary challenge to our institutions has constantly changed. More importantly, new conceptions for understanding our institutions as organizations and the performance criteria by which they could be judged have emerged. In attempting to extend this contextual analysis as we approach the year 2000, there is a good deal of speculation. However, there is also evidence that current societal conditions are introducing a more basic change—a reordering of our industry is taking place. The nature of that new industry is unclear but is rapidly emerging.

Section Five: From Improvement to Emergence: An Organization-Environment Research Agenda

In the past, our national research and development center agendas have reflected the major institutional challenges of their era. Berkeley focused on innovation and governance in an era of growth and expansion; NCHEMS focused on development of management systems in an era of recession and later on organizational effectiveness as it anticipated a stable-but-constrained period; NCPGF attempted to deepen our understanding of the organizational nature, management, and leadership of higher education; NCRIPTAL and NCTLA reflected the concerns of the late 1980s and early 1990s which focused on teaching, learning, academic quality and assessment. Most recently, in the mid-1990s, when quality improvement amidst constraint has clearly been the environmental challenge to institutions, NCPI has focused on improvement of postsecondary institutions.

The argument of this paper is simple. The environmental conditions we face as we approach the year 2000 and a new NCPI award period are ones with long-term impacts both for our industry and our institutions. A national center needs to examine the reality of those environmental and industry changes and their institutional impacts. Reflecting this organization-environment analysis, this paper suggests a national research agenda which focuses on the rapid reordering and redefinition in our industry and the extensive institutional implications, including institutional redesign. The following is a brief research agenda.

The agenda might focus on the concept of the "emergence" of new organization-environment phenomena. The 1970s-1990s marked a period in which the institutional challenge from environmental conditions shifted from concerns for efficiency, to effectiveness, to quality, and finally to improvement. In the context of new societal conditions which are rapidly reordering our industry in ways which are not fully understood, unpredictable, and the subject of considerable speculation, a research agenda focusing on the emergence of organized phenomena in the organization-environment interface may be a useful one. Emergent organizational patterns are ones that flourish in times of great uncertainty. These are also times allowing an opportunity to either redesign existing organizations or design new ones. (Galbraith, 1995; Holland, 1998). The intent is to understand the new organizational patterns that are emerging, their dynamics, their impact on current organizational forms, and their lessons for the future. "Improvement" is an appropriate focus for organizations in an industry which we comprehend, but studying emergent organizational focus may be more useful in an industry which is being reordered and may require redesigning our postsecondary institutions—not just improvement. The following are four suggested areas for research on emergent organizational phenomena for a postsecondary knowledge industry.

Redefining the Industry

While one could examine the societal conditions or the general dynamics of the environment suggested in the conceptual framework, this is a vague area with only loose connections to postsecondary institutions. The critical change in the next decade (and one which is more objective and amenable to substantive research) is the study of the reordering of the industry—an examination of how it should be understood or redefined. Two key research areas are the organized nature of the emerging postsecondary knowledge industry and the new postsecondary learning market—the providers and the suppliers.

Studying the new patterns of organizations participating in the delivery of postsecondary research and learning opportunities suggests looking beyond postsecondary institutions to identify the following: the noneducational institutions entering the postsecondary delivery arena (both degree and nondegree postsecondary education); new noncampus-based virtual postsecondary institutions; and the new knowledge-based research and development organizations. The nature of their educational and research role, the corporate model, the patterns of funding, their mode of management, and their relationship to their clientele and to suppliers all need to be understood in order to understand their competitive or cooperative potential for existing postsecondary institutions.

Another focus for research is to expand our examination of the postsecondary learning and relearning market. While some initial research (some done by NCPI) has explored the changing nature of degree students, there is still a great deal to be done with understanding the adult markets and how to segment them. Adult students vary by educational purposes and needs: They have nondegree as well as degree interests, and they differ with regard to sources of financing, prior education, and the type of delivery desired/needed, among others.

A critical aspect of this emerging industry is understanding how students in the marketplace connect to these emerging new opportunities for postsecondary learning, how accreditation will adapt to individualized delivery systems for degrees and legitimize nondegree experiences, and how public policy may support or limit the expansion of the postsecondary knowledge industry or the ability of learners to participate.

Redirecting Relationships and Mission

Another critical aspect of an emerging postsecondary knowledge industry is understanding the linkage between existing postsecondary institutions and the emerging postsecondary knowledge industry. Studies focusing on how postsecondary institutions compete with, cooperate with, or defend against private sector, governmental and/or non-educational organizations (telecommunications, computer, information resource, education and training, and entertainment firms) in the postsecondary learning market,

in research, and in economic development are needed. Implicit in this interface between existing postsecondary institutions and the emerging industry is an emphasis on new interorganizational forms that go beyond our understanding of contracts, partnerships, and educational consortia. Joint ventures, third party corporations, incubator organizations, and subsidiaries are some of the new and expanding interorganizational entities that are emerging and that serve educational, research, and economic development purposes. The nature of the interorganizational units, the role of their sponsoring organizations, and their patterns of management and effectiveness all need to be understood.

As important as these new interorganizational relationships are, it is also important to understand how existing postsecondary institutions are redefining their mission in the face of the changing industry. NCPI investigators have already recognized the "core periphery" distinction in terms of extended degree and nondegree growth in an institution's educational functions. However, this study needs to be widened to examine various applied research, community service, and economic development activities as well. The main questions involved include: To what extent are these peripheral activities the result of planned or guided mission changes or institutional drift? What are the effects of these new relationships and mission changes on an institution's core activities? and How do institutions manage these new activities and cope with the changing industry forces and opportunities?

Reorganizing Institutions

The impacts of an emerging postsecondary knowledge industry, changing missions, the new relationships with non-educational organizations in providing for new learners, new delivery systems, and new research and development functions may require institutions to go beyond their recent interest in academic restructuring which tends to focus on interactions among academic units. To compete in a postsecondary knowledge industry some institutions will need to undergo more redesign on the macro-level, or transformation efforts. An important part of this agenda will be the study of institutions that "drift into new missions" and those that attempt major transformations that go beyond restructuring of academic programs—in other words, major shifts in learner clientele, broad scale use of technological delivery, and new partnering arrangements with non-educational firms. Another area of research could focus on the internal academic and administrative implications of attempts to redirect institutional mission and relationships.

The institutional implications of the new postsecondary industry and its external relationships have already begun to suggest important new models of organization and management that might be the focus of research related to these reorganizing efforts. What is the nature of a conglomerate mode of organization? A network organization? An entrepreneurial style of management? A virtual organizing pattern? Is virtual organization different from virtual delivery?

Renewal and Academic Workplace

The notion of a postsecondary knowledge industry goes beyond changes of institutional mission, external relationships, and reorganized academic and managerial processes. Increased use of educational technology, new student markets, new learner needs, new modes of delivering knowledge, a new focus on learning and learning strategies rather than instruction, new courses and degrees, and new and greater involvement in inter-disciplinary and applied research, will require substantial change in the academic workplace. While NCPI has investigated improving teaching, learning, and assessment, a new focus might emphasize the changing nature of the academic workplace suggested by the forces and changes in this paper. It might also focus on the preparation of future faculty who are effective in newer modes of learner-based, knowledge-oriented, postsecondary education and who are effective in inter- or cross-disciplinary teaching and research, in their new postsecondary knowledge environment. Studies of the academic culture and the readiness or willingness to change among existing faculty may also provide fruitful new areas to link improvement and emergence.

Conclusion: Evolution or Revolution?

This research agenda—reflecting the historical and current analysis—takes an organization-environment perspective and argues for a focus on the "emergence" of a new reordering industry and the redesign of postsecondary institutions, as we face the twenty-first century. The four-part agenda focuses on different aspects—redefining the industry (the environment); redirecting institutional mission and external relationships (the organization-environment interface); reorganizing the academic and administrative processes (the transforming impact of or response to the environment); and the renewal of the academic workplace (the human interpretation of the changing postsecondary knowledge arena). The issue of whether evolutionary improvement is sufficient or more radical redefinition and redesign in this emergent context is required ultimately depends on whether the pace of change is evolutionary or revolutionary.

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TABLE 1. CHANGING ORGANIZATION - ENVIRONMENT PERSPECTIVES

	EXTERNAL CONDITIONS	INDUSTRY AND ENVIRONMENT	INSTITUTIONAL CHALLENGE	ORGANIZATION MODEL	PERFORMANCE FOCUS
1950	Growth & Expansion	Mass Higher Education: Supportive, Munificent, Predictable	Direction & Accountability	Formal & Collegial	Resources: Input
1960	Disruption & Demands	Turmoil	Order, Control & Access	Political	Reputation: Image
1970	Higher Education Amendments. Economic Recession.	Postsecondary Education:	Efficiency & Market Orientation	Managerial & Market	Results: Outputs Productivity Efficiency
1980	Enrollment & Financial Constraint	Neutral, Constained, Uncertain	Reduction, Reallocation & Retrenchment. Institutional Effectiveness	Organized Anarchy, Matrix, Strategic & Cultural	Results: Goal Achievement Priorities Quality of Learning: Student Outcomes Value Added
1990					
2000	Emerging Challenges and New Constituents	Postsecondary Knowledge: Critical, Limited, Rapid & Reordering	Redesign Institutional Mission, Process & Structure	Conglomerates, Entrepreneurial, Networks, Alliances & Jt. Ventures, Virtual Organ.	Redefine Industry & University Role Redirect Mission & Relationships Reorganize Processes & Structures Reform Workplace Culture

FIGURE 1. ORGANIZATION-ENVIRONMENT INFLUENCES: A CONTINGENCY MODEL

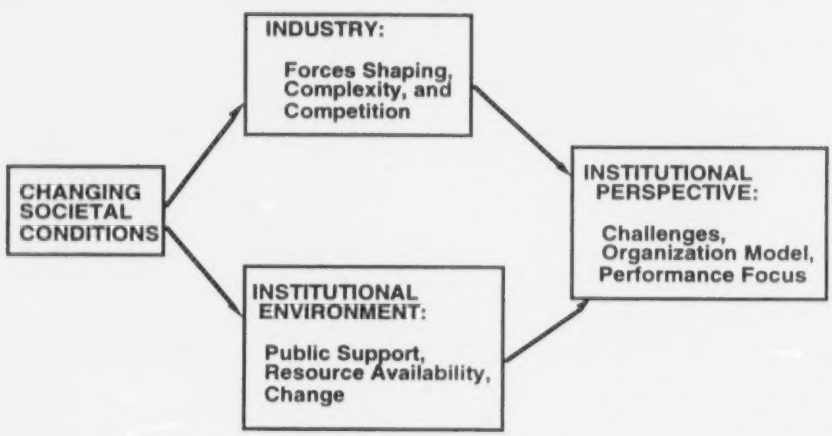
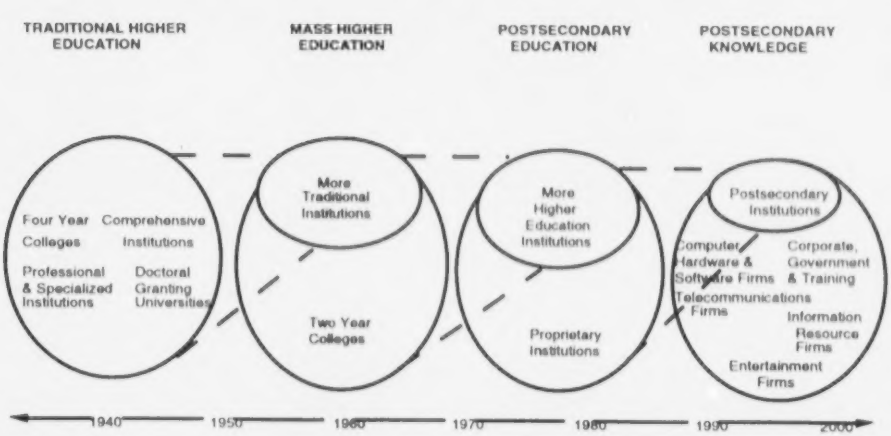


FIGURE 2. EVOLVING MODELS OF INDUSTRY



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